

# zero outputs from LIS ...

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[roshan](#) 5 posts since

Jul 24, 2008 Hi ,

I am stuck in a strange kind of problem recently with LIS. I was able to run the LIS and obtain good results before. But this is different now. The LIS is producing all zero outputs. Actually, it started to happen after a crash of our machines sometime ago.

I have checked the data files, parameter files and compiling issues. Everything seems OK to me but I don't know why I get only the zero outputs. The problem is really very strange. I thoroughly checked but ran out of any clue why this has happened.

Do you have any idea, where I might have not looked into? I have included the lis.config file, lisdiag file and output stat files. These are from the LIS 4.3 version and LIS5.0, and both versions have the same problem. I am sure, I am missing to read an important file here, which might have multiplied everything by a zero, but I am not able to figure it out. I would highly appreciate your kind support to get the problem solved.

Thank you **Attachments:**

- [LIS5.0consult.zip](#) (20.3 K)

Tags: lis, output, noah, nldas

[sujay](#) 118 posts since

Sep 20, 2007 **1. Re: zero outputs from LIS** Jul 25, 2008 9:53 AM

When you look at your diagnostic log, it shows that zero tiles/grid points are created after reading the landmask and vegetation files. I suspect that they might have gotten corrupted. Can you send me some regional plots of these datasets to see if they are alright?

-S

[roshan](#) 5 posts since

Jul 24, 2008 **2. Re: zero outputs from LIS** Jul 25, 2008 1:45 PM

in response to: [sujay](#)

The same was one of my guess. I downloaded a new copy of landmask file and ran the program and got the same results.

I will plot the figures as you suggested. Is there any possibilities other than this?

Thank you.

[roshan](#) 5 posts since

Jul 24, 2008 **3. Re: zero outputs from LIS** Jul 28, 2008 8:56 PM

in response to: [roshan](#)

zero outputs from LIS ...

I have checked the land mask and vegetation files, which are OK. I have attached sample plots (as suggested by Sujay)

I noticed that the LIS is not reading the landmask and vegetation files correctly. For example, the retrieved localmast variable after reading the land mask data file contains following values.

```
4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 0.000000 4.600603E-41
4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41 4.600603E-41
4.600603E-41
```

Similarly, the fgnd variable after reading the land cover data file contains all zeros.

(I obtained these values from src/domains/latlon/createtiles\_latlon.F90)

```
call readlandmask(n, lis%domain, lis%vegsrc, localmask)
```

```
write(logunit,*) 'done reading mask'
```

```
print*, localmask
```

```
call readlandcover(n,lis%domain, lis%vegsrc, fgnd)
```

```
print*, fgnd )
```

This is the reason I am not able to get the proper tiles. In my diagnostic file, there is

```
MSG: maketiles -- nch 0 ( 0 )
```

```
MSG: maketiles -- ngrid 0 ( 0 )
```

which should be

```
MSG: maketiles -- nch X ( 0 )
```

```
MSG: maketiles -- ngrid Y ( 0 )
```

(X and Y non zeroes)

I am curious if there is something I have to modify in LIS\_landcover\_FTable.c or other files to read the landcover / landmask files correctly. Or, is there any specific environment variable, that I might have incorrectly specified? Please help me.

**Attachments:**

- [figures.zip](#) (36.1 K)

[sujay](#) 118 posts since

Sep 20, 2007 4. **Re: zero outputs from LIS** Jul 29, 2008 7:16 AM

in response to: [roshan](#) This could be due to the fact that the LIS code is compiled without the big\_endian flags. I am not sure which compiler you are using. If you are using absoft, you need to have the environment variable ABSOFT\_RT\_FLAGS set to -bigendian

-S

[roshan](#) 5 posts since

Jul 24, 2008 5. **Re: zero outputs from LIS** Jul 29, 2008 7:37 AM

in response to: [sujay](#)

Yes, I have set that flag properly.

Here are the environment variables I use

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```
#!/bin/bash -l
export ABSOFT_RT_FLAGS=-bigendian
export ABSOFT=/opt/absoft/10.0
export ESMF_COMPILER=absoft
export ESMF_COMM=mpich2
export ESMF_DIR=/home/roshan/ESMF
export LIS_ARCH=linux_absoft
export MPI_HOME=/home/roshan/mpich2
export PATH=$MPI_HOME/bin:$PATH
export PATH=$ABSOFT/bin:$PATH
export NETCDF_HOME=/home/roshan/local/netcdf
export PATH=$NETCDF_HOME/bin:$PATH
export LIS_SPMD=single
```

What other environment variables do I need to take care of? Thank you

Roshan

[sujay](#) 118 posts since

Sep 20, 2007 **6. Re: zero outputs from LIS** Jul 29, 2008 11:02 AM

in response to: [roshan](#) Everything looks fine. Obviously something happened between the system crash. I assume you already tried a gmake realclean and a fresh build of LIS?

-S

[roshan](#) 5 posts since

Jul 24, 2008 **7. Re: zero outputs from LIS** Jul 29, 2008 12:36 PM

in response to: [sujay](#) Yes, I have tried real clean and fresh rebuild of LIS both LIS4.3 and LIS5.0.

Roshan

[sujay](#) 118 posts since

Sep 20, 2007 **8. Re: zero outputs from LIS** Jul 30, 2008 11:27 AM

in response to: [roshan](#) I think we need to narrow the problem down. It might be a good idea to take a step back from LIS and try the following.

Write a simple test program to read the landmask data for example and compile and run the test program. See if it works. I expect to see the same problem in the test program, which means something is wrong with the compiler. Let us know how it goes.

Thanks,

-S